



Groundwater Reduction Plan Participant Meeting October 17, 2012



Agenda

- **Introductions**
- **FB Subsidence District Update**
- **GRP Participants**
- **Implementation Progress**
- **Financial Update**
- **Planning & Compliance**



Fort Bend Subsidence District Update



2003 Regulatory Plan

Key Elements

Reg. Areas & Conversion Requirements

Area A

Reduce GW pumpage by **30% by 2014**

Reduce GW pumpage by **60% by 2025**

Exemptions: Ag. Irrigation & Livestock,
TWD ≤ 10.0 mgy until alt. supplies available

Will consider Economic Hardships

Richmond/Rosenberg Sub-Area:

GRPs due starting in 2010

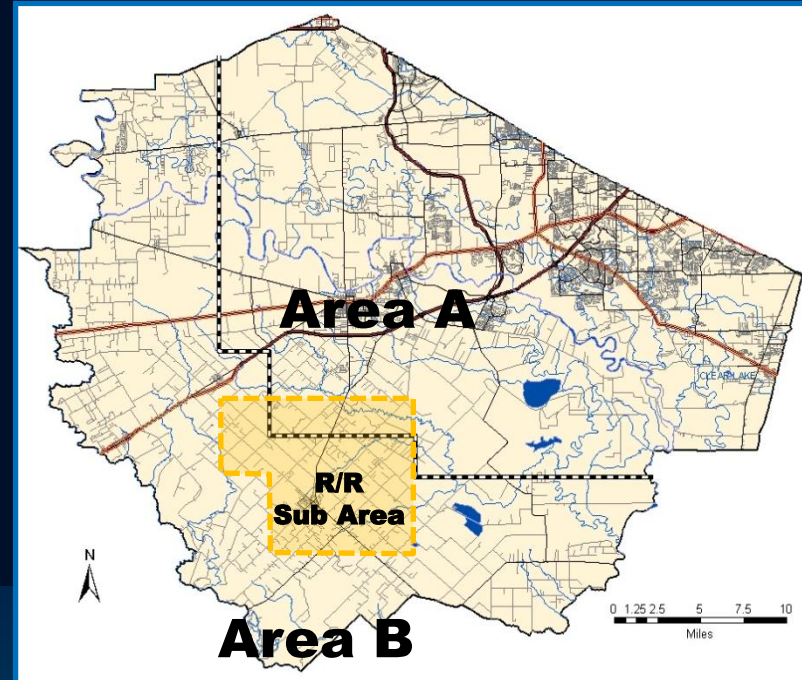
Reduce GW pumpage by 30% by 2016

GRPs (2008 & 2010) - **100% compliance!**

Disincentive Fee currently set in 2003 at \$3.25

Area B - No scheduled GW reductions at this time - but cannot
transfer GW to Area A unless usage has historical basis

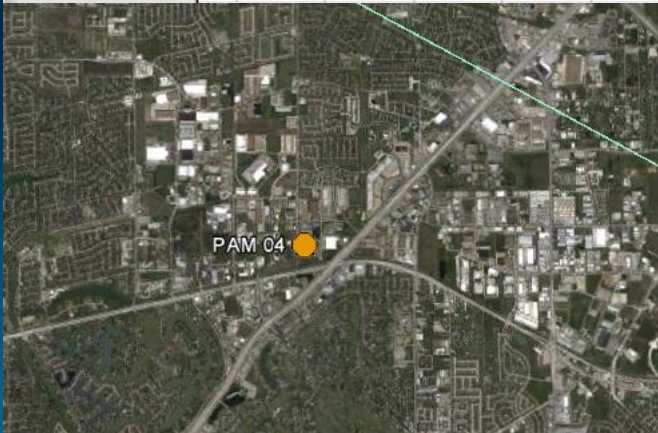
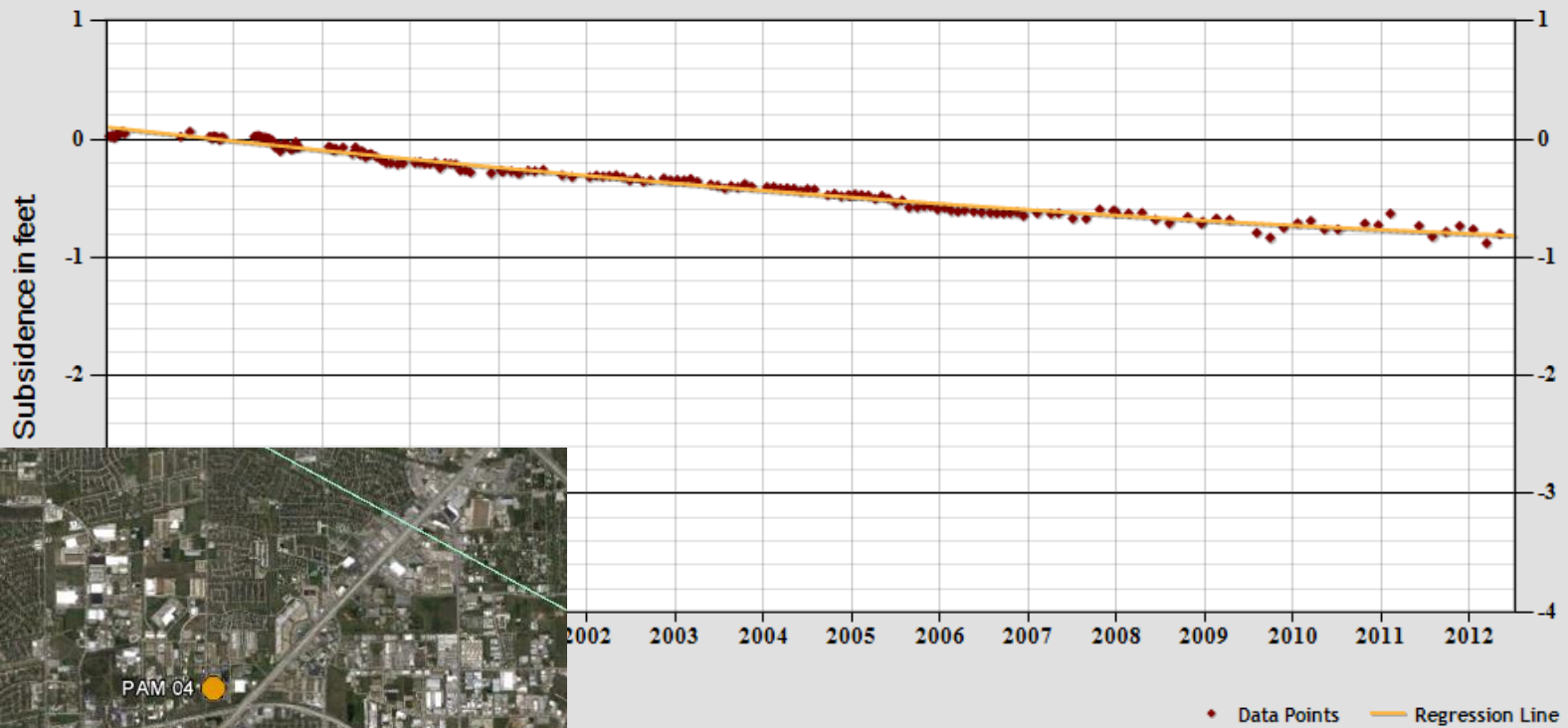
Regulatory Plan Update is Underway

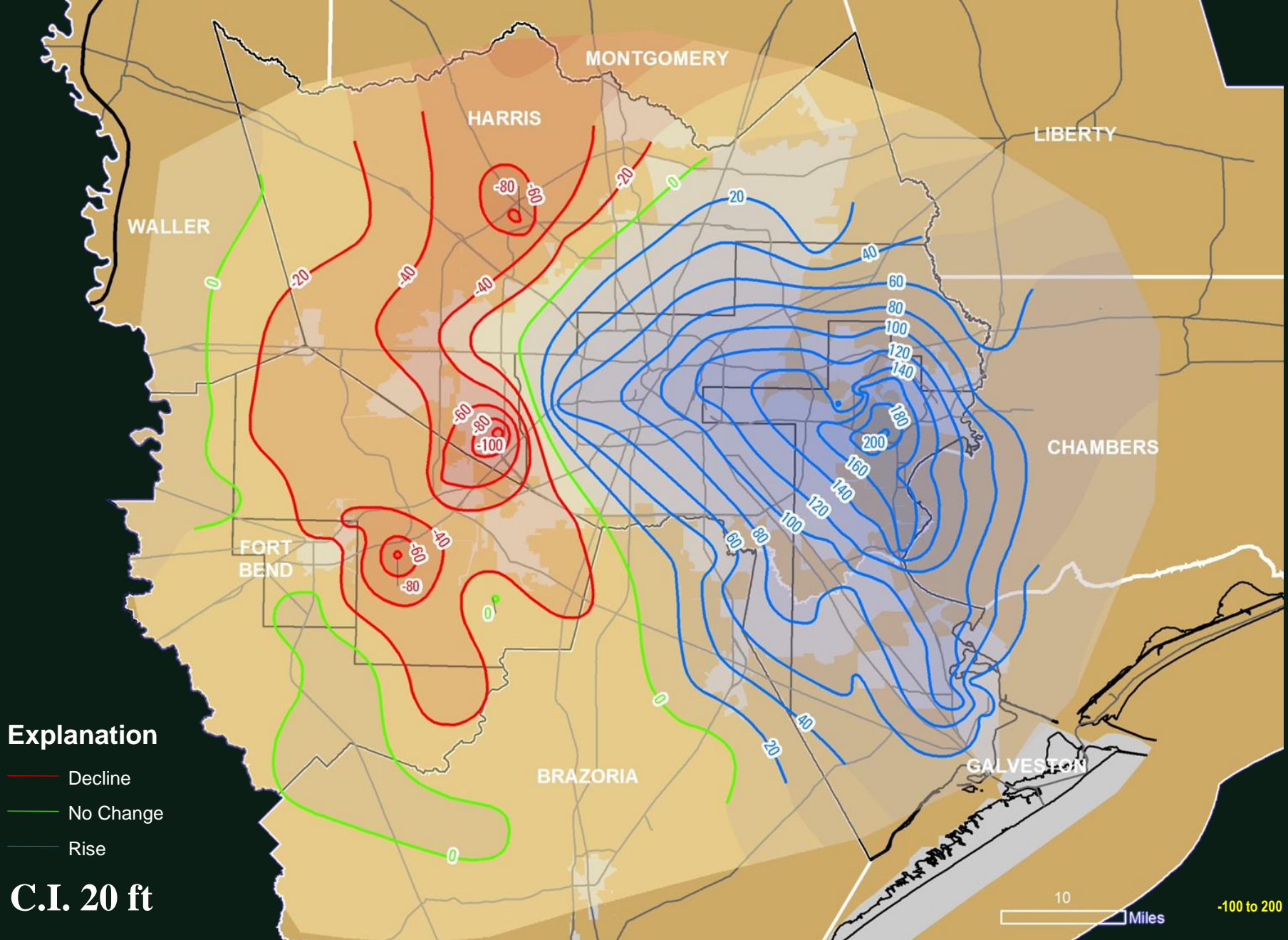


FBSD Subsidence Monitor Site – PAM 04 – Sugar Land

Fort Bend Subsidence District - PAM 04

Subsidence Observations



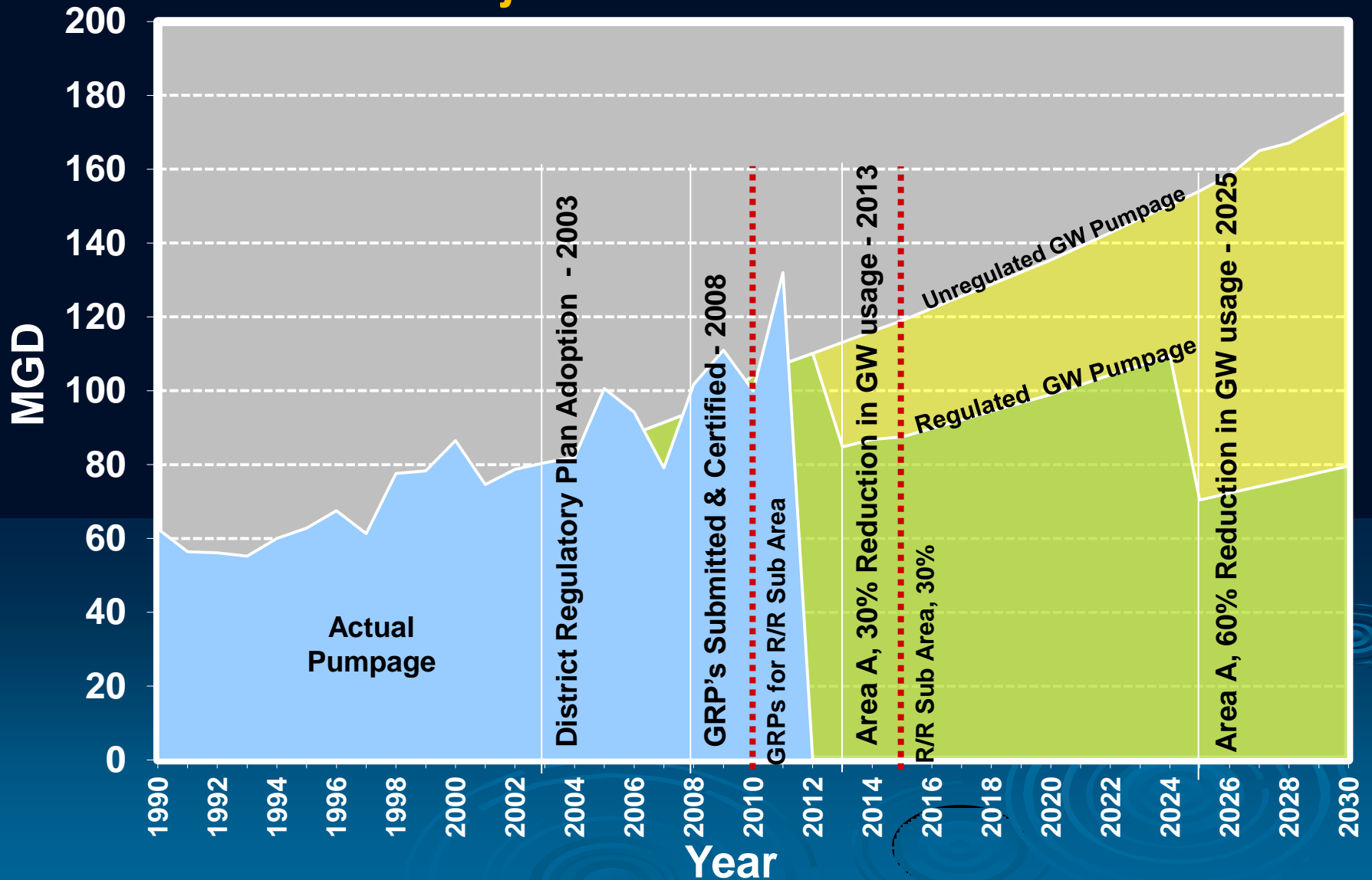


1977–2012 Chicot Aquifer Water-Level Change



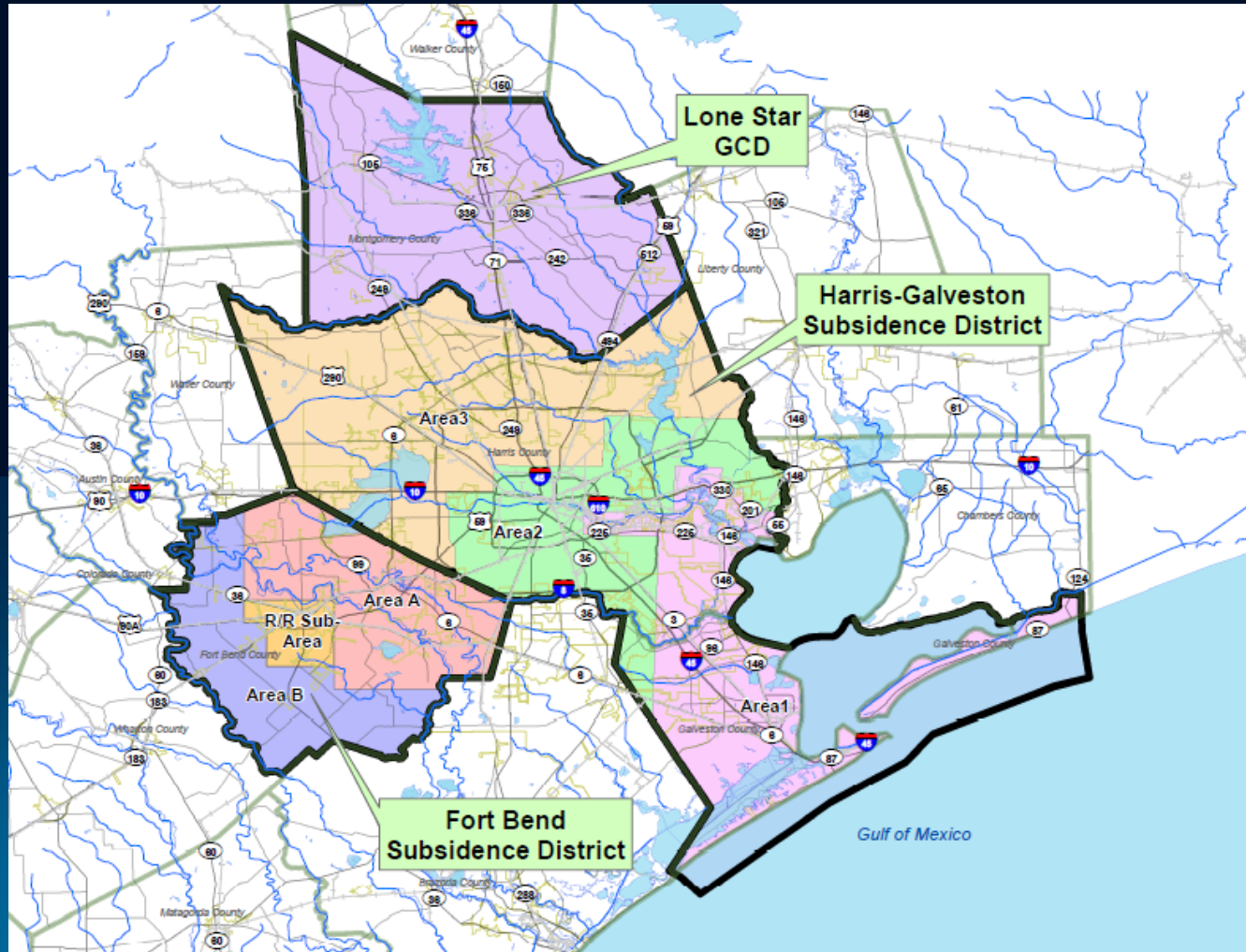
1977–2012 Evangeline Aquifer Water-Level Change

Groundwater Pumpage Actual vs. Projected



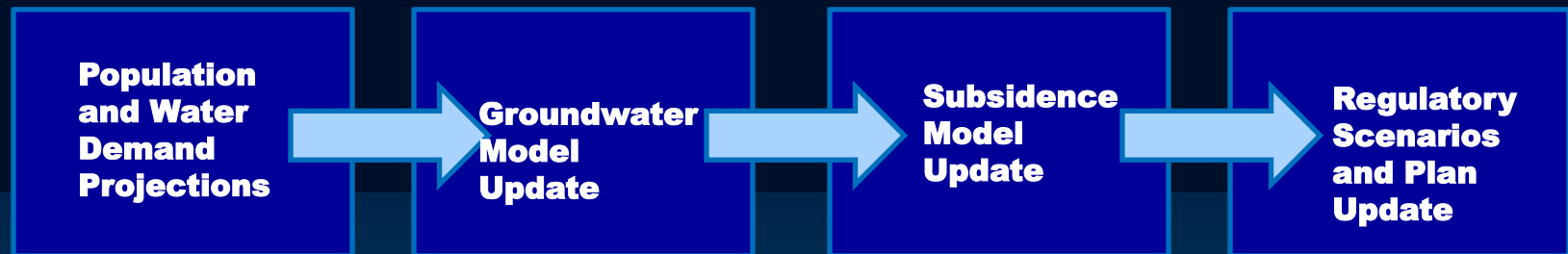
Projected GW Uses established in development of 2003 Regulatory Plan

Regulatory Plan Update – Project Sponsors



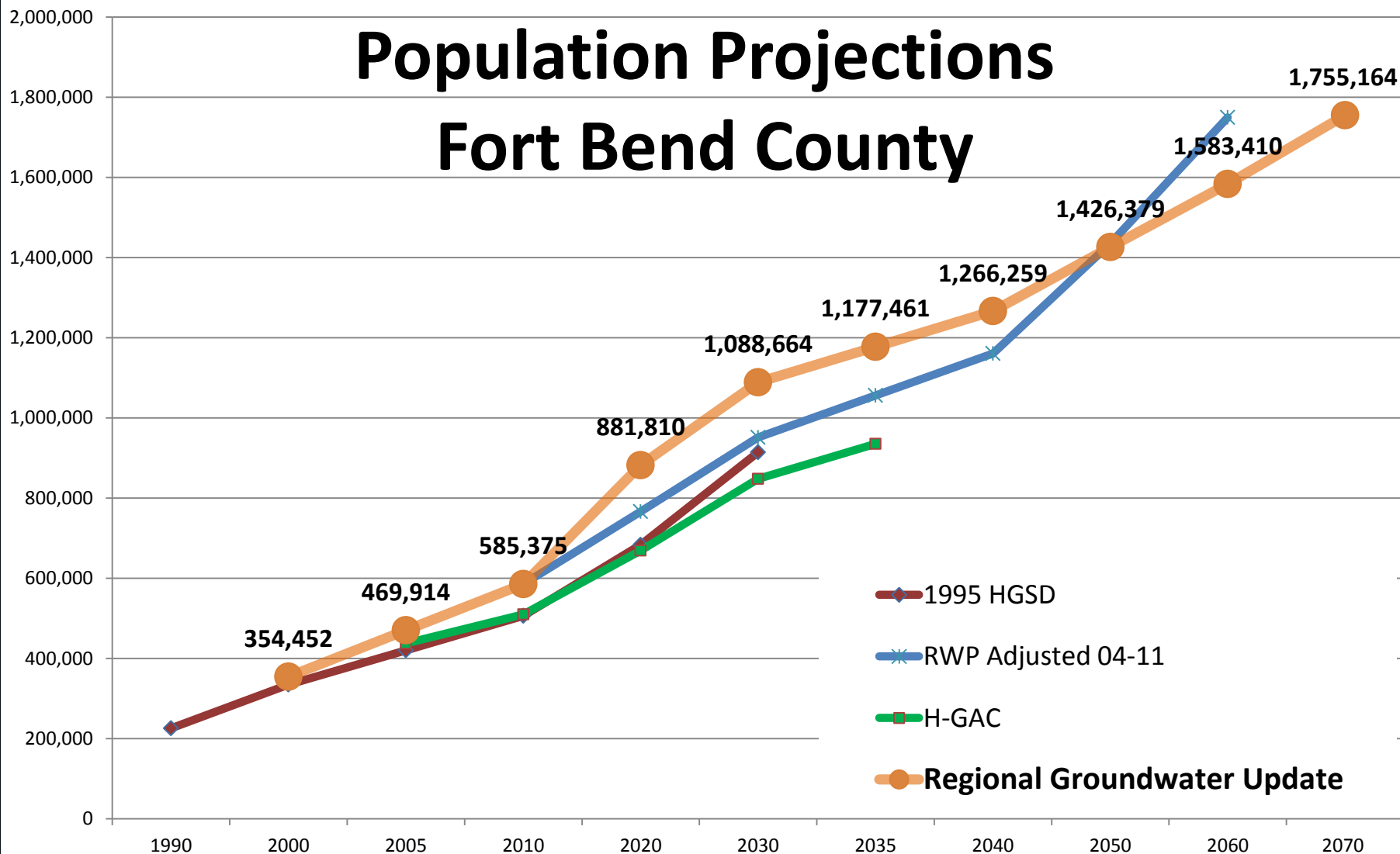
Regulatory Plan Update – Key Focus Areas

**STAKEHOLDER
INVOLVEMENT**



TWDB COORDINATION

Population Projections Fort Bend County





Sugar Land Groundwater Reduction Plan Update

GRP Participants

Public Water Systems

- FB MUD 106 (Greatwood)
- FB MUD 112 (New Territory)
- Plantation MUD (Tara Plantation)
- Tx Dept of Criminal Justice
- Royal Valley Utilities
- City of Sugar Land

Private Businesses

- Texas Par Golf
- River Pointe Golf
- WSG Sweetwater
- Schlumberger

Home Owner Assoc & Levee Dist

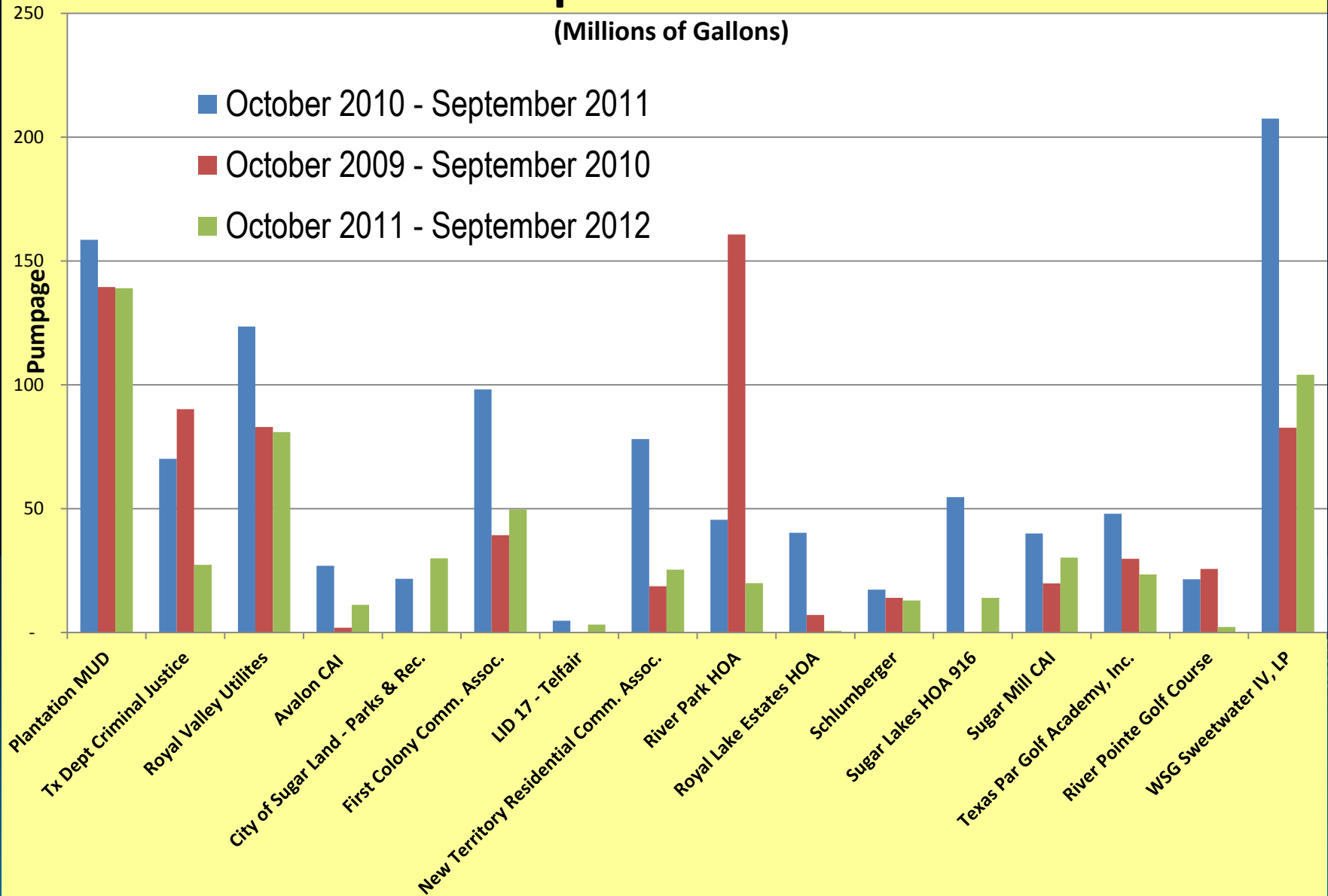
- Royal Valley HOA
- Avalon CAI
- Sugar Mill CAI
- Sugar Lakes HOA
- First Colony Comm Association
- New Territory Res. Comm Assoc.
- River Park HOA
- LID 17 (Telfair Levee Dist.)
- Venetian Estates
- City Airport

69
4

Water Wells
Surface Water Pump Stations

GRP Participant Well Production

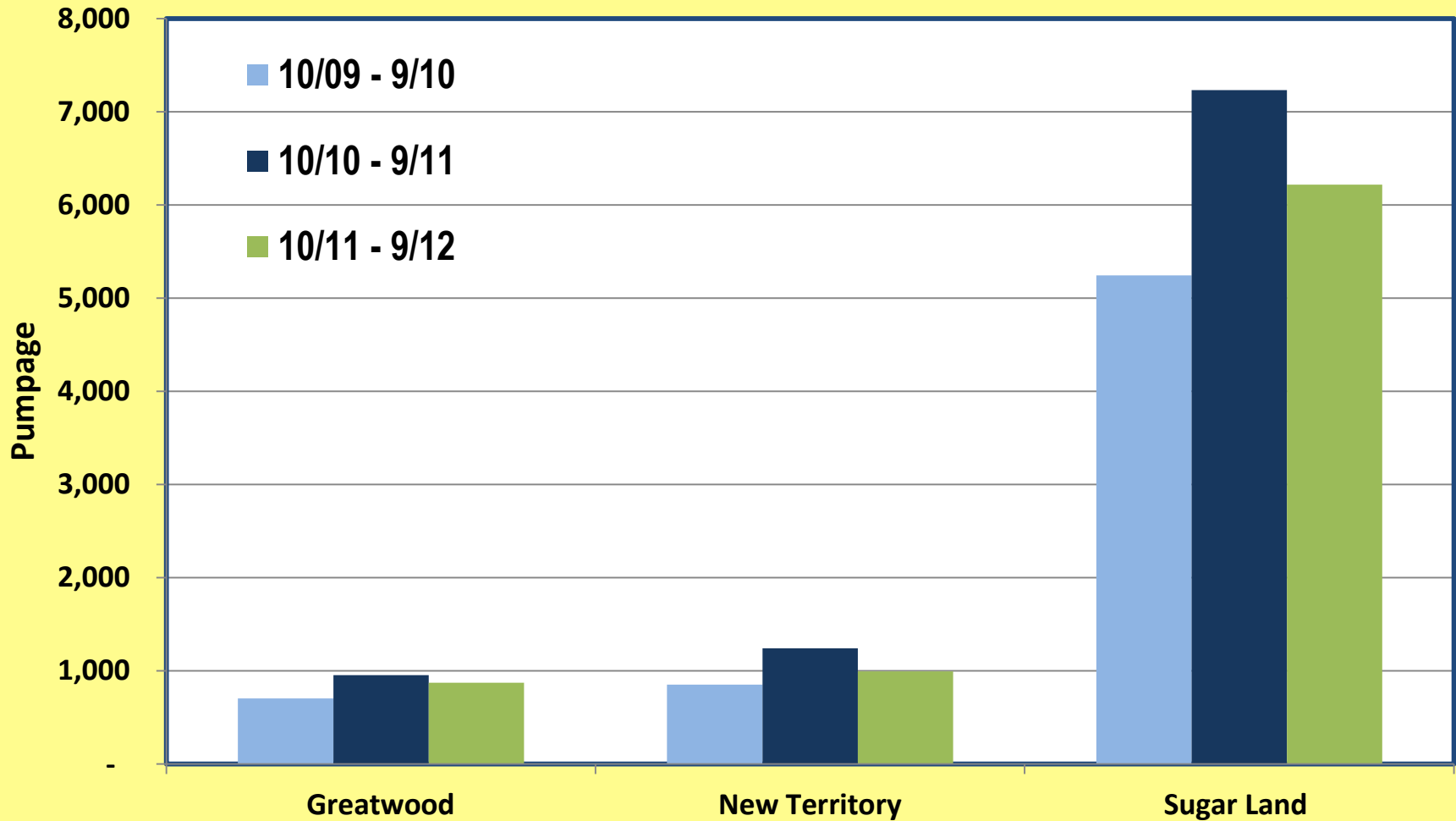
(Millions of Gallons)



GRP Participant Well Production

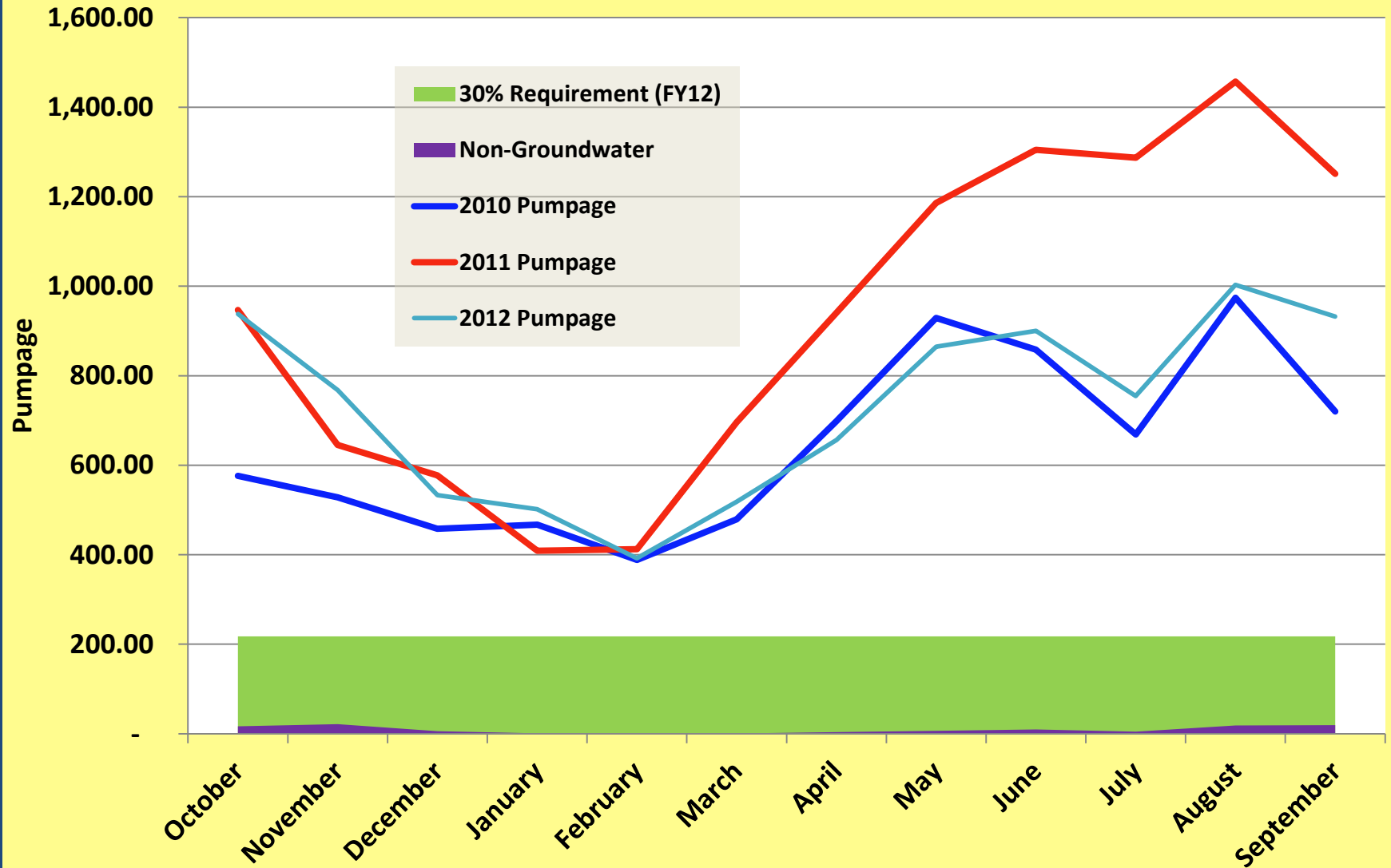
Large Potable Wells

(Millions of Gallons)



FY10 - FY12 ACTUAL PUMPAGE

(Millions of Gallons)





GRP Implementation

GRP Implementation Strategy

4 Strategies

1. Surface Water Treatment Plant - Potable
2. Water Conservation
3. Water Reuse /Reclaimed
4. Surface water use - Non-potable



SWTP Implementation Strategy

- **Surface Water Plant (operational August 2013)**
 - Build base load plant - 9 MGD; 335 days a year
 - Expand to 22 MGD in 2025
 - MF/UF Membrane Filtration (RO provision 2025)
- **Over convert dense areas**
 - minimize transmission lines
- **Surface water delivered to groundwater plants for distribution and blending to minimize changes in taste**
- **Peak water demands met from groundwater**



October 9, 2012



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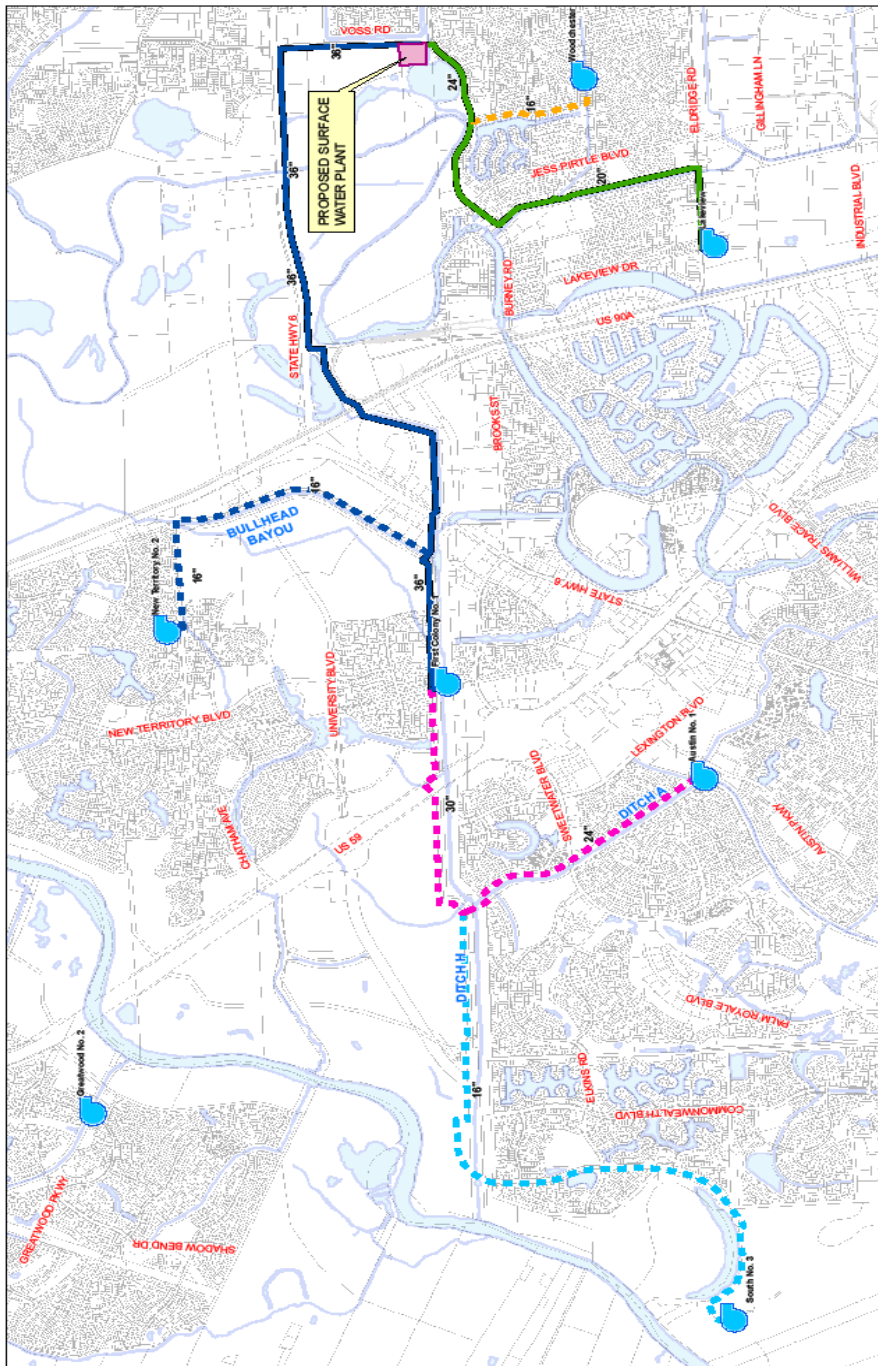




Membrane Building



Transmission Lines Completion April 2013





Financial Update



GRP Financial Philosophy

- Separate GRP Fund Created
 - contains all Costs/Expenditures
- Costs of Surface Water Conversion Shared Equally among GRP Members
- Blended Rate for all Members
- All Participants Pay Based on Same Rates
- GRP rate increases phased in over next 2 years
 - **2013:** **\$1.50**
 - **2014:** **\$1.75** (estimate)

Surface Water Fund

- Ended FY12 on Target with Budget
- Savings Recognized in Capital Projects
 - Reduced Budgets
 - Allocated Funds to FY13 Projects
 - Avoided Additional Debt
- FY13 Begin SWTP Plant Operations Mid Year
- Delay Final GRP Rate Increase to Jan 2014

Surface Water Fund

5 Year Forecast

\$ Millions	FY13B	FY14E	FY15E	FY16E	FY17E
Revenues	11.36	13.97	14.15	14.38	14.63
Expenses	11.42	13.99	13.83	13.98	14.08
Net Income	-0.05	-0.02	0.31	0.40	0.55
End Balance	7.22	7.20	7.52	7.92	8.47
Balance Policy <i>50% of Budget</i>	5.71	6.99	6.92	6.99	7.04
GRP Rate per 1,000 gallons (Jan. 1)	\$1.50	\$1.75	\$1.75	\$1.75	\$1.75

Capital Improvement Projects

Project Name	Prior Years	FY13
North WWTP Reclaimed Water	\$1,365,000	
Non-Potable Reuse Study- SWWTP	150,000	
SCADA – Communication Conversion	385,000	
SWTP – O & M Manual and SOP	418,000	
Water Plant Upgrades for Conversion	8,823,365	
SW Transmission Line	19,051,956	
Surface Water Treatment Plant	81,653,111	220,000
SWTP CT Study & Tracer Testing		75,000
SWTP Computerized Maintenance		500,000
AMIL Gates Replacement Study		100,000
SWTP Raw Water Monitoring System		150,000
Sugar Lakes Non-Potable Water Pump Station		335,500
SWTP Membrane Acceptance & LRV Demo Test		180,000
Total	111,846,432	1,560,500

Surface Water Fund

Operating Results

	Revenues	Expenses	Net	GRP Rate
FY 08	\$4,864,709	\$2,636,519	\$2,228,190	\$0.25
FY 09	2,487,817	1,345,424	1,142,393	0.25
FY 10	4,379,854	1,984,577	2,395,278	0.60
FY 11	106,376,359	101,363,160	5,013,199	0.70
FY 12P	10,012,653	12,101,849	-2,089,196	1.32
FY 13B	11,361,436	11,415,950	-54,514	1.50



Planning & Compliance

GRP Water Demands

GRP Water Supplies

Groundwater Credits

Future Projects

Drought Planning

Water Conservation



GRP Water Demand

Million Gallons per Day (MGD) Average Day

Cal. Year	Demand	Conversion
➤ 2010	22.8	1.1
➤ 2011	30.6	1.2
➤ 2012 *	24.0	0.2
➤ 2014	28.7	30% 8.6
➤ 2024	33.5	30% 10.1
➤ 2025	34.6	60% 20.8
➤ Ultimate	36.3	60% 21.8

* Estimated

GRP Water Supplies

Current Supplies

- **Gulf Coast Water Authority**
 - **20.0 MGD GCWA**
- **Oyster Creek Water Right**
 - **16.2 MGD**
- **Brazos River Authority**
 - **4,588 AF (4.1 MGD)**
 - **1,800 AF (1.6 MGD) *Pending***
 - **9,612 AF (7.6 MGD) *Add'l Request***

Groundwater Credits

- **Non-Potable Projects - Early Conversion**
 - Lake Pointe & FCCA Irrigation
 - Telfair Lake Filling & Irrigation
 - Venetian Estates Lake Filling and Irrigation
- **WaterWise Presentations to 4th - 5th Graders in SL GRP Area**
- **Recycled Water used at Wastewater Plants**
- **Total Credits (March 2012): 3.202 billion gal**
 - = 1+ years conversion requirement
- **Value (\$ 3.90/1000 gal) = \$ 12,489,000**

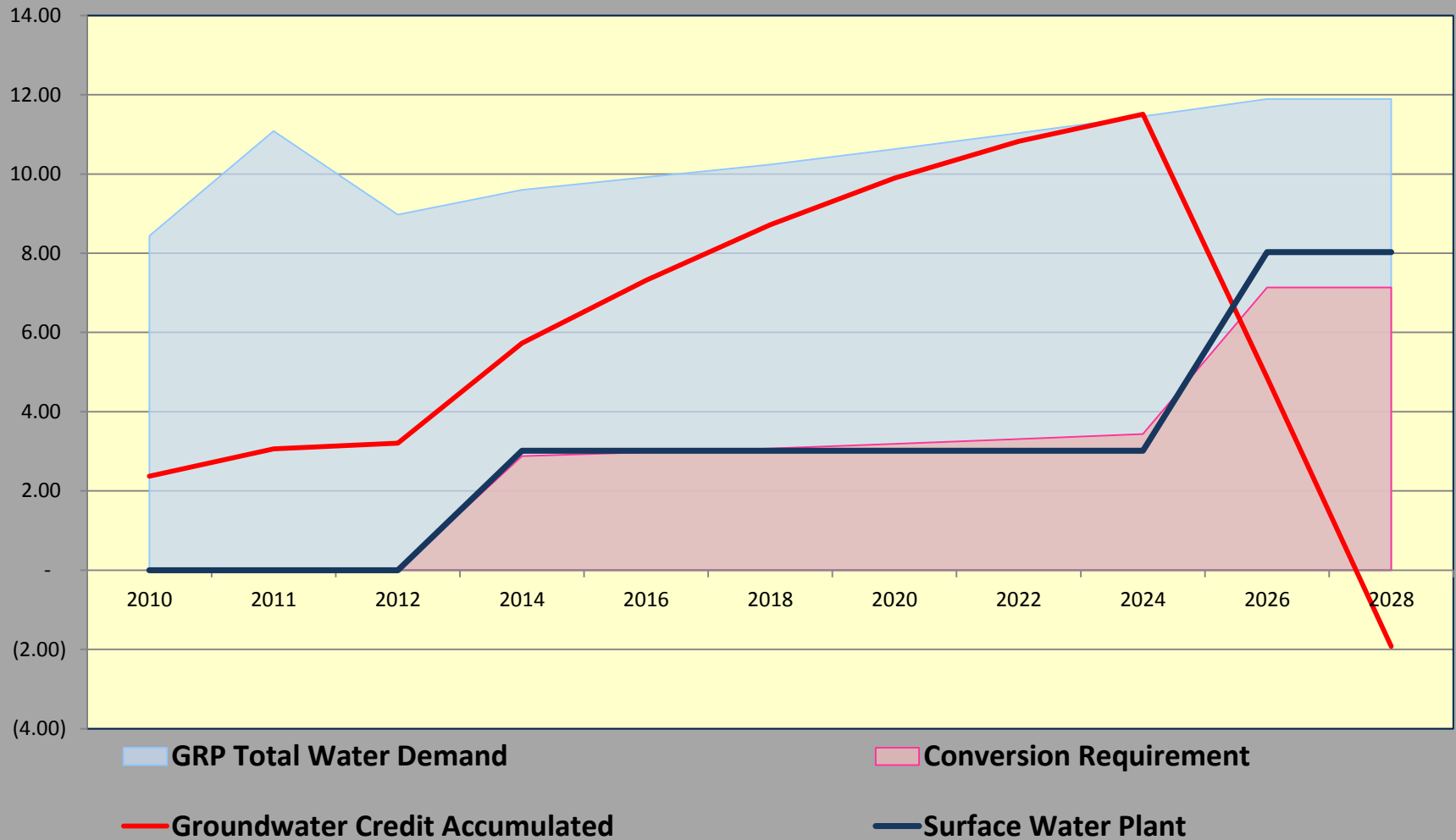
Future GRP Projects

- **South Plant - Riverstone Reclaimed Water Project**
 - **50% Funded by Riverstone MUD**
- **Sugar Lakes Surface Water Pump Station**
- **New Territory Reclaimed Water Plannt**
 - **Funded by New Territory Residents**
- **Oyster Creek Water Right Take Points**

Potential GRP Projects

- **Rabbs Bayou Water Right**
- **Small Scale Scalping Plant**

Groundwater Credits Accumulation Projection





Drought Plan



Drought Plan

Triggers / Water Use	Stage I Severe Distress	Stage II Critical Distress	State III Emergency
Three day average demand	65% capacity	70% capacity	80% capacity
Surface Water Treatment Plant			Offline > 30 days
Irrigation	Mandatory Two Day	Mandatory One Day	Prohibited
Aesthetic Water Use	Voluntary Reduction	Prohibited	Prohibited
Non-Essential Water Use	Voluntary Reduction	Prohibited	Prohibited
Main Line Flushing	Reduce	Reduce	Reduce
New Meters			No new meter applications
Curtailment			If necessary (City Manger)



Water Conservation



Why Conserve Water ?

- Environmental Stewardship
- Tool in Managing Water Resources
- Endorse fiscally responsible stewardship of natural resources
- **Reduce need for additional water supplies -
Cheapest water is the water we already have**
 - \$0.19 per 1,000 gallons BRA Reservoir
 - ~\$0.77 per 1,000 gallons Allens Creek

Water Conservation Goals

- Reduce overall water demand
 - Extends current water supplies
 - Reduces GRP conversion requirements
 - Reduces future infrastructure needs
- Reduce Potential for Implementation of Drought Plans during drought and water supply emergencies

Water Conservation Measures

<i>Water Use</i>	<i>Year Round Efficiency</i>
Irrigation	Two Day (Voluntary)
Aesthetic Water Use	Voluntary Reduction
Non-Essential Use	Voluntary Reduction
Main Line Flushing	Reduce (except for regulation or water quality concerns)

Participant Obligations

- **Aggregate Water Well Permit**
 - Projected Water Demand – January 15
 - Test and Calibrate Meters - every 12 months
- **Drought Contingency Plan Update**
 - Adoption and Compliance
- **Water Conservation**
 - Implement Program
 - Target Outdoor Use
 - Irrigation Systems Management
 - Install Rain sensors
 - Leak inspections and repairs

Planning for Sugar Land's Future Water Today



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GRP Water Demand

Average Day

